THE ALGAE OF NEW JERSEY (U.S.A.)
V. CYANOPHYTA (BLUE-GREEN ALGAE)

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This is the fifth paper in a series examing the distribution of algae in the State of New Jersey (U.S.A.). The genera are again arranged alphabetically. If no citation is given, the species was noted by the author.

The taxonomy and classification of the blue-green algae is in termoil. Dr. Francis Drouet has intensely studied this algal group and he believes that some characteristics traditionally used to classify blue-green algae, such as sheath, protoplasmic granules, placement of spores, the presence of a gelatinous matrix, etc., are environmentally variable. Drouet, therefore, bases his classification upon cells or trichomes only.

Of course, not all phycologists agree with Drouet. In the following list, the algae are presented as named by the original investigator(s) and Drouet's suggestions for the taxa are noted in brackets.

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CYANOPHYTA BLUE-GREEN ALGAE

Anabaena circinalis (Kutz) Rab
Hackensack River;(Nostoc commune)
Anabaena cupressaphila Wolle
on trunks of trees growing in marshes near the water's edge (1,8,9);(Calothrix parietina)
Anabaena flos-aquae (Lyngb) Breb
common on stagnant freshwater (1);(Microcoleus vaginatus)
Anabaena flos-aquae var. aestuartii Wolle
very abundant on pond at Dennisville (1);common on stagnant freshwater (8);Pine Barrens (6);(Anabaina oscillarioides)
Anabaena flos-aquae var. circinalis (Rab) Kirch
very abundant on pond at Dennisville (1);(Nostoc commune)
Anabaena oscillarioides Bory
in brackish ditches, southern parts of the state (1);brackish ditches (8,9)
Anabaena spiroides var. crassa Lemm
D/R Canal, Oct (7);(Nostoc commune)
Anabaena torulosa (Carm) Lag
marine, on decaying algae at Camden, Atlantic City and Newark Bay (1);with other algae forming a brownish jelly in a pool east of Camden, also Newark Bay, Atlantic City (8);(Anabaina oscillarioides)
Anabaena variabilis Kutz
D/R Canal, Jul-Aug (7);freshwater, Somerset, pools, Bound Brook (8);(Anabaina oscillarioides)

Aphanizomenon flos-aquae (L) Ralfs
D/R Canal, Sept-Nov (7);Hackensack River;Oradell Reservoir, abundant Jun-Aug (2);(Microcoleus vaginatus)
Aphanocapsa delicatissima W & G West
Hackensack River
Aphanocapsa virescens (Hass) Rab
on wet stones and rocks (1)
Aphanotheca prasina A Br
freshwater, occasional, floating on ponds (1,8)
Aphanotheca saxicola Nag
Hackensack River
Brachytrichia quoyi (C Ag) Born & Flah
marine, Atlantic City (1,8)
Calothrix brebissonii Kutz
freshwater, on stones in ponds, frequent (1,9)
Calothrix confervicola (Roth) Ag
marine, on rockweed in Atlantic City, Hoboken, Communipaw and New York Bay (1,8);on various algae, Atlantic City (4);(Calothrix crustacea)
Calothrix crustacea Schousbae & Thuret
marine, on rockweed (1,4,8)
Calothrix dillwynii Hass
frequent in freshwater swamps (1);swamps, etc. (9)
Calothrix fusca Born & Flah
state, Oct 1892 (8);Oradell Reservoir, common in plankton, Jul-Aug (2)
Calothrix gypsophila Kutz
freshwater, rocky shores of Lake Hopatcong (1,9)
Calothrix lacucola Wolle
freshwater, Split Rock Pond (1,8,9)
Calothrix meneghiniana Kirch
freshwater, frequent on submerged wood, etc, (1)
Calothrix parietina (Nag) Thur
on submerged stones in shallow water (8)
Calothrix pulvinata (Mert) Ag
wharves, Atlantic City (1,4,8);(Calothrix crustacea)
Calothrix radiosa (Kutz) Kirch
freshwater, Morris Pond (1)
Calothrix scopulorum (Web & Mohr) Ag
wharves, Hoboken, Atlantic City, Beeseley's Point (1;8);on woodwork, Atlantic City (4);(Calothrix crustacea)
Chaemosiphon incrustans Grun
on centric diatoms in the Hackensack River;(Entophysalis)
Chroococcus limneticus Lemm
D/R Canal, Jul-Feb (7);Hackensack River
Chroococcus limneticus var. subsalsus Lemm
Hackensack River
Chroococcus multicoloratus Wood
Hackensack River
Chroococcus rufescens (Breb) Naeg
terrestrial, frequent on moist rocks (1)
Chroococcus turgidus (Kutz) Lemm.
terrestrial, frequent on moist rocks (1;8);Pine Barrens (5);New Brunswick (3);Hackensack River (Anacystis dimidiata)

Clathrocystis roseo-persicina Cohn
on marshes, mud and small pebbles, Atlantic City (1);abundant, marshes, Atlantic City (4)
Coelosphaerium keutzingianum Nag
frequent on stagnant pools (1,8);D/R Canal (7);Hackensack River
Coelosphaerium naegelianum Unger
D/R Canal, Aug-Oct (7);Hackensack River
Cylindrospermum limnicola Kutz
wet places on dead wood, etc (1);(Anabaina licheniformis)
Cylindrospermum macrospermum Kutz
frequent in wet places on dead wood, etc (1);(Anabaina oscillarioides)
Cylindrospermum minutum Wood
forming with other algae a ferrugenous brown, gelatinous mass, growing in a deep, shaded, very stagnant pool, and Spring Garden in wet places on dead wood (8)
Cylindrospermum stagnale (Kutz) Born & Flah
frequent in wet places on dead wood (8);(Nostoc commune)
Desmonema wrangelii (Ag) Born & Flah
swamps, Morris Pond (8)
Dichothrix meneghiniana (Kutz) DeToni
frequent on submerged wood in freshwater (8)
Entophysalis granulosa Kutz
marine, on shells at Atlantic City (1);on old shells at Atlantic City, forming a crumbly incrustation at the highwater mark and seeming to prefer lagoons or high-tide pools where the water is quite salt and where the level doesn't vary much (8);(Entophysalis deusta)
Eucapsis alpina Clem & Shantz
Pine Barrens (5)
Gloeocapsa alpicola (Lyng) Born
Hackensack River
Gloeocapsa crepidinum Thur
marine, on wharves at Atlantic City (1,4,8);(Entophysalis deusta)
Gloeocapsa magma (Breb) Kutz
terrestrial, frequent on shaded rocks (1,8)
Gloeocapsa rupestris Kutz
state (8)
Gloeothece confluens Naeg
terrestrial, on wet rocks (1,8)
Gloeotrichia natans (Hedw) Thur
freshwater, frequent in small ponds and pools (1)
Gloeotrichia pisum (Ag) Thur
freshwater, parasitic on other aquatic plants (1)
Gomphosphaeria aponina Kutz
freshwater, in pools and ponds (1,8);Hackensack River
Gomphosphaeria lacustris Chod
Hackensack River
Gomphosphaeria wichurae (Hilse) Drouet & Daily
Hackensack River
Hapalosiphon braunii Kutz
in ponds, on submerged plants, Atsion and Hammonton (1)
Hapalosiphon brebissonii Kutz
in ponds, on submerged plants (1);Dennisville (9);Pine Barrens

Hapalosiphon fontinalis (Ag) Born
on submerged plants in ponds at Dennisville, Atsion, Hammonton (8)
H. fontinalis var. tenuisimus (Grun) Coll & Setch
state (8)
Hapalosiphon fuscescens Kutz
frequent in ponds (1,9)
Hapalosiphon tenuissimus Grun
ponds and wet ground (1,9);Pine Barrens (6)
Hydrocoleum lyngbyaceum Kutz
on moist low grounds near Atlantic City (8);(Microcoleus lyngbyaceus)
Hypheothrix coriacea forma meneghinii Kutz
damp earth (8)
Hypheothrix pallida Kutz
forming reddish-brown stratum on dry ground, wet soil, old meadow grounds (8)
Isactis caespitosa (Kutz) Wolle
freshwater, frequent on submerged stones in shallow water (1);state (9)
Isactis fluviatilis (Rab) Kirch
freshwater, rocky margins of Green Pond (1)
Isactis plana (Harv) Thur
stones and old oyster shells, Atlantic City (1,8,4)
Leptothrix aeruginea (Kutz) Kirch
freshwater, frequent in ponds (1)
Leptothrix ochracea Kutz
freshwater, in ditches and small pools, frequent (1)
Leptothrix rigidula Kutz
marine, on algae, Atlantic City (1)
Lyngbya aerugine-caerula (Kutz) Gom
common, Jun-Jul, Nov (2)
Lyngbya aestuarii (Mertens) Liebm
marine, brackish ditches at Hoboken, common in salt ponds and marshes about Newark Bay, Perth Amboy, Absecon (1);in pools of moist earth subject to inudation from flowing tides, in ponds and pools in salt water marshes, Perth Amboy, Absecon, brackish ditches at Hoboken, common on marshes on floating eel grass, Atlantic City, in salt marshes about Newark Bay, in salt ditches, Cape May (8);common on marshes, Atlantic City (4);Pine Barrens (6);(Microcoleus lyngbyaceus)
Lyngbya aestuarii forma aeruginosa (Ag) Wolle
on ground or in brackish ditches (8)
Lyngbya aestuarii forma minus Liebm
Absecon, Perth Amboy (9)
Lyngbya arenarium (Kutz) Rab
on low moist grounds near Atlantic City (1,9)
Lyngbya bergei G M Smith
D/R Canal, Jul-Dec (7)
Lyngbya cataracta (Rab) Wolle
in rapid waters, frequent (1)
Lyngbya lutea (Ag) Gom
on wharves, Atlantic City (8);(Oscillatoria lutea)

Lyngbya luteo-fusca Ag
Hoboken,wharves between tide marks,Atlantic City (1)
Lyngbya majuscula (Dillw) Harv
marine, Newark Bay, on stems of floating eel grass in Atlantic City, Cape May, New York area (1);Newark Bay, Hudson River and on eel grass at Atlantic City (8);not uncommon, floating (4);(Microcoleus lyngbyaceus)
Lyngbya obscura Wolle
freshwater, ponds and pools (1,9)
Lyngbya pallida (Naeg) Kutz
wet soil and old meadow grounds (1);exposed wet soil, old roadways, old meadow grounds (9)
Lyngbya phormidium Kutz
freshwater, on marsh bottoms, frequent (1)
Lyngbya rupestre (Ag) Kutz
on rocks, Palisades (1)
Lyngbya semiplens (C Ag) J Ag
Hudson, Hoboken, on wharves between tide marks at Atlantic City (8);(Microcoleus lyngbyaceus)
Lyngbya tenerrima Thur
marine, on wharves, Atlantic City (1);in small quantity, among other algae, Atlantic City (4)
Lyngbya vulgaris (Kutz) Kirch
freshwater, on moist soil, frequent (1)
Lyngbya wollei Farlow
freshwater, Lake Hopatcong, Swartswood Pond (1);widely distributed, pond near Stanhope (9)
Marsoneilla elegans Lemm
D/R Canal, Oct (7)
Mastigonema aerugineum (Kutz) Kirch
freshwater, common in small ponds (1);state (9)
Merismopedia convolutum Breb
freshwater, frequent in ponds (1,8)
Merismopedia elegans A Br
D/R Canal, Jul-Oct (7);Hackensack River;(Agmenellum thermale)
Merismopedia glauca (Ehr) Nag
D/R Canal, Oct (7);Hackensack River
Merismopedia punctata Meyen
Pine Barrens (5);(Agmenullum quadruplictum)
Merismopedia tenuissima Lemm
D/R Canal, Jul-Sep (7);Hackensack River
Microcoleus chthanoplastes Thur
marine, on marshes, Atlantic City (1);brackish pools, Atlantic City, moist earth (8);on marshes, mixed with other algae (4);Hackensack River;(Schizothrix arenaria)
Microcoleus anguiformis Harv
terrestrial (1);Pine Barrens (6)
Microcoleus hyalinus (Kutz) Kirch
freshwater, in ponds on sphagnum (1);ponds (9)
Microcoleus lacustris
Pine Barrens (6)
Microcoleus pulvinatus Wolle
mill race, Bamber (1,9);the thalli of all possible sizes from 1-10" in diameter are attached to stones and grasses looking like

boulders in the bottom of a mill race with rapidly running water (8);Pine Barrens (6)
Microcoleus terrestris Desmog
terrestrial, on moist earth, frequent (1)
Microcoleus vaginatus (Vaucher) Gom
on moist earth (8)
Microcystis ichthyoblabe Kutz
occasional in small ponds (8)
Microcystis pallida (Farlow) Lemm
on decaying algae, Atlantic City (8)
Microcystis progenita (Bres) Rab
terrestrial, wet timbers, trunks of trees, etc (1)
Nostoc alpinum Kutz
dripping rocks, Palisades (1);(Nostoc commune)
Nostoc austinii Wood
growing admist mosses on rocks, near Gloucester (8);(Nostoc commune)
Nostoc caeruleum Lyngb
in ponds and on dripping rocks (1)
Nostoc comminutum Kutz
on pond water, frequent (1,8);(Nostoc commune)
Nostoc commune Vauch
on wet ground, common (1);common on wet ground, dripping rocks, Palisades (8)
Nostoc depressum Wood
attached to a brook moss, growing in a rapid rivulet in the northern part of the state (8);(Nostoc commune)
Nostoc microscopicum Carm
frequent on moist rocks (8);(Nostoc commune)
Nostoc pruniforma Ag
in ponds (1);(Nostoc commune)
Nostoc punctatum Wood
damp ground, Sep (8);(Nostoc commune)
Nostoc rupestre Kutz
on moist rocks, frequent (1);(Nostoc commune)
Nostoc sphaericum Vauch
on wet rocks, abundant (1,8)
Oncobyrsa cesatiana Rab
New Brunswick (3)
Oscillatoria amphibia Ag
New Brunswick (3)
Oscillatoria angustissima West & West
Hackensack River
Oscillatoria brevis Kutz
freshwater, in marshes (1, 8);Hackensack River;(Arthrospira neapolitana)
Oscillatoria formosa Bory
Oradell Reservoir, occasional, Jul (2);New Brunswick (3);Hackensack River
Oscillatoria froelichii Kutz
freshwater, on sluggish and stagnant water (1)
Oscillatoria gracillima Kutz
freshwater on small ponds (1)
Oscillatoria imperator Wood

freshwater, frequent in ponds and pools (1)
Oscillatoria leptotricha Kutz
brackish water (9)
Oscillatoria limnmetica Lemm
New Brunswick (3)
Oscillatoria limosa Ag & Gom
terrestrial, on wet earth, frequent (1);Stapleton and Tomkinsville, Staten Island, frequent on wet earth (8);New Brunswick (3);Hackensack River
Oscillatoria littoralis Carm
marine, salt water marshes, frequent (1,9)
Oscillatoria major Vauch
freshwater, on sluggish and stagnant waters (1,8)
Oscillatoria natans Kutz
freshwater, on ponds (1)
Oscillatoria nigra Vauch
D/R Canal, May-Dec (7);in wet places (1,8)
Oscillatoria ornata Kutz
New Brunswick (3)
Oscillatoria princeps Vauch
freshwater, on pools, Dennisville (1,8);Pine Barrens (5)
Oscillatoria sancta (Kutz) Gom
Hackensack River
Oscillatoria splendida Kutz
on small freshwater ponds, in ditches of brackish water (8);Hackensack River
Oscillatoria subtarulosa (Breb) Farlow
marine, brackish water and pools, Atlantic Co (1);found with Oscillatoria subuliformis, Atlantic City (4)
Oscillatoria subuliformis Kutz
marine, in brackish water and pools, Atlantic Co (1,8);mixed with other algae, Atlantic City (4); (Porphyrosiphon notarisii)
Oscillatoria tenuis Ag
stagnant water (1,8);Pine Barrens (5);Oradell Reservoir, occasional, Jun-Aug (2);New Brunswick (3);Hackensack River
Oscillatoria tenuis var. natans (Kuet) Gom
freshwater ponds, frequent (8)
Phormidium autumnale (Ag) Gom
on moist soil (8);(Microcoleus vaginatus)
Phormidium incrustatum var. cataractarum (Naeg) Gomont
rapid water (8)
Phormidium retzii forma rupestris (Kutz) Gom
on rocks, Palisades (8)
Phormidium uncinatum (Ag) Gom
New Brunswick (3)
Plectonema tomasinianum (Kutz) Born
frequent on stones in ponds or floating, Hammonton (8)
Plectonema wollei Farlow
the floating mass was fully 10 yards long, 2-4 yards wide, a foot or more in thickness and so densely matted it was impossible to break through with a rowboat, in pond near Stanhope, also Sussex, Lake Hopatcong, Swartswood Pond (8)
Polycystis aeruginosa Kutz
D/R Canal, Jul-Oct (7);Hackensack River

Polycystis flos-aquae (Wittr) Kirc
Hackensack River
Polycystis ichthyoblabe Kutz
freshwater, occasional in small pools (1)
Polycystis pallida (Kutz) Farlow
marine, on decaying algae, Atlantic City (1,4)
Rivularia atra Roth
stones at Atlantic City (1,8);(Calothrix crustacea)
Rivularia dura Kutz
freshwater, attached to other aquatic plants in ponds, frequent (1,8);(Calothrix parientina)
Rivularia haematites (D C) Ag
rocky margins of Green Pond (8)
Rivularia hospita Thur
on an oyster shell, Atlantic City (4)
Rivularia natans (Hedwig) Welw
small ponds and pools (8)
Rivularia polyotis (J Ag) Born & Flah
marine, on roots of Spartina and on oyster shells, Atlantic Co (1,8);(Calothrix crustacea)
Schizothrix hyalina Kutz
in ponds on sphagnum (8)
Scytonema austinii Wood
forming a sort of miniature turfy cushion upon the rocks, Little Falls (8)
Scytonema calotrichoides Kutz
on submerged sticks in ponds (1,9)
Scytonema cinerum Menegh
Godwinville, on moist rocks (1,9)
Scytonema gracile Kutz
on rocky shores of Morris Pond (1,9)
Scytonema guyanese (Mont) Born & Flah
forming an extended olive green stratum, a little above the water level on the plank sides of a neglected basin of sea water, Perth Amboy, July, 1878 (8)
Scytonema hafmanni Ag
on moist earth, wood and rocks (8)
Scytonema immersum Wood
forming a flocculent, greenish black, slimy coating to the stems and finely dissected leaves of Ranunculus aquetilis in Shepherds Mill Pond, near Greenwich (8)
Scytonema mirabile (Dillw) Born
frequent on submerged sticks in ponds (8)
Scytonema myochrous (Dillw) Ag
on moist ground, Closter, Morris Pond (1,8)
Scytonema naegelii Kutz
moist rocks, Closter and Godwinville (1)
Scytonema natans Breb
floating in ponds, Hammonton and elsewhere (1)
Scytonema ocellatum Lyng
on moist rocks, Godwinville (8)
Scytonema tolypothrichoides Born & Flah
frequent on wet rocks (1,8);Pine Barrens (5)
Sirosiphon compactus Kutz

on moist rocks (1)
Sirosiphon coralloides Kutz
on rocky shores of Green Pond (1,9);Pine Barrens (6)
Sirosiphon ocellatus Kutz
in swampy places on submerged sticks (1)
Sirosiphon pulvinatus Breb
on moist rocks (1)
Sphaerozyga carmichaelii Harv
common on muddy flats and in shallow pools in marshes (4);(Anabaina oscillarioides)
Sphaerozyga polysperma Kutz
freshwater, in pools, Bound Brook (1);(Anabaina oscillarioides)
Sphaerozyga saccata Wolle
Cranbury Pond (9);(Hapalosiphon)
Spirulina laxa G M Smith
New Brunswick (3);Hackensack River
Spirulina princeps West & West
Hackensack River;(Spirulina subsalsa)
Spirulina subsalsa Oersted
mixed with Oscillatoria, Atlantic City, also Swimming River, mixed with other minute forms, Atlantic City (8)
Spirulina tenuissima Kutz
marine, Atlantic City, mixed with other minute forms, Swimming River (1);in small quantity, mixed with Oscillatoria, Atlantic City
Stigonema informe Kutz
on stones constantly washed by the waves, along the rocky shores of Green Pond (8)
Stigonema ocellatum (Dillw) Thur
forming, with various other species of algae, a gelatinous blue-green or brown stratum, in a very stagnant pool, on submerged sticks in swampy places or in dark brown waving tufts, about a half inch in length, Bamber Lake (8)
Stigonema panniforme (Ag) Kirchner
frequent on moist rocks (8)
Stigonema turfaceum (Breb) Cooke
growing on exposed faces of rocks (8);Pine Barrens (5)
Symplocastrum friesii (Ag) Kirch
shaded clay banks, Bergen (8)
Symphosiphon austinii Wood
on wet rocks, Little Falls (1,9)
Symphosiphon hafmanni (Ag) Kutz
on moist earth, wood and rocks (1)
Symploca lucifuga Harv
terrestrial, on shaded clay banks, Bergen Co (1,9)
Symploca muralis Kutz
Pine Barrens (5)
Symploca muscorum (Ag) Gom
on marsh bottoms (8)
Tolypothrix aegogropila (Kutz) Kirch
Budd Lake (1,9)
Tolypothrix distorta Kutz
in ponds (1);rocky shores of Morris Pond (7)
Tolypothrix lanata (Desv) Wartm

clusters torn from attachment by storm, Budd Lake (8)
Tolypothrix muscicola Kutz
frequent in sluggish water (1)
Tolypothrix penicillata (Ag) Thur
on moist rocks, Closter and Godwinville (8)
Tolypothrix tenuis Kutz
in ponds, often very abundant (1,8)
Tolypothrix tenuis forma bryophila Rab
ponds, very abundant (8,9)
Wollea saccata (Wolle) Born & Flah
frequent in cranberry pond, Sussex Co (1);(Hapalosiphon)
Xenococcus schoushoei Thur
marine, growing on Lyngbya luteo-fusca at Atlantic City (1,8);(Entophysalis conferta)

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